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Gedlu Metafaria moderates a visit with Joseph Rufino, asking him to describe his experiences as one of the “Lost Boys of Sudan.” Metafaria, from Ethiopia, and Rufino provided their District audience with many insights into the strife and tragedy that has characterized life in the African nation for decades.

Lost in The Sudan – Found in America

The St. Louis District Equal Employment Opportunity office has brought a number of notable presenters to address a variety of issues for the District’s employees. The Reverend Billie Kyles related his firsthand experiences working with the late Dr. Martin Luther King;

noted motivational speaker John Foppe told us last fall of his life without arms, and how he has dealt with what he termed, “his condition.”

Recently EEO again captured the attention and imagination of the District by bringing a “Lost Boy of Sudan” to our

attention.

A new chapter in a decade-plus odyssey of thousands of young Sudanese male youths walking hundreds of miles, eating little but bitter grasses and berries, seeing stragglers eaten by wild animals and still more perish in the jaws of

Lost and Found Cont. page 3



Commander's Perspective



COL Kevin Williams

One privilege as your commander is seeing *Esprit* before it goes to press.

On page six of this edition, there is an article our Division Commander, Brig. Gen. Robert Crear, wrote for his Division, addressing diversity in our Corps work force.

The chain of command is an honored part of the military. Leaders lead and subordinates fall in and follow. But I don't think the general will be displeased if I chose not to follow him this time. Rather, I am pulling up alongside him to stand shoulder to shoulder on this issue: the importance of a diverse work force.

As the general states, we cannot create or foster diversity through dictate or command. Rather, it must stem from "willing and active behavior of supervisors, managers and people at all levels."

You no doubt know that a lot more people are leaving the District than we have seen in previous years. Many are senior people, taking with them a lengthy corporate history and knowledge base.

But their departures – however great the collective loss – also present us with a unique opportunity.

While the work force is continuing to change its shape and size, the large majority of these people are being replaced. There are almost daily job announcements from Human Resources

New people are going to join the Corps family and this offers us a chance to ensure that we remain a diverse family and become even more diverse.

This isn't about quotas. It has absolutely nothing to do with lowering standards. As the general says, "Becoming more diverse does not mean that we sacrifice quality in selecting individuals for positions. It means that we should put forth more effort to reach our qualified minorities." Let me add, we must include people with disabilities too.

We do not need an organization that neatly fits some statistical profile. But we do need an organization that can help us do our jobs better. And I believe that this means we must look substantially like the people we serve – the American public.

As jobs open here in St. Louis, I am asking each of you to identify the best and the brightest to apply for and fill them.

Do you know a minority person elsewhere in the Corps who might fit the qualifications we are looking for and who could gain promotion by coming here? Do you know of young minority students with whom you went to school and would like to work?

If so, help identify these people – not just of specific races, but of excellence. Help them – anyone, everyone – find their way through the federal hiring system to opportunities in St. Louis. Our

HR people will eagerly work with all potential applicants, help them submit paperwork and to take other necessary steps that may lead them to join our family.

We also need to reach out to minority serving educational institutions. As the general says, "We should visit these institutions, encourage students to apply for our vacancies, bring back resumes and act upon them." We will do this.

Finally, please read the general's closing comments: "To my mind, diversity is not merely the absence of discrimination; more fundamentally, it is the powerful presence of a sense of teamwork and community — one that brings all kinds of people from different backgrounds together — with the end result of creating a whole that is much greater than the sum of the individual parts."

What he is saying is that we don't take anything away from the organization when it becomes more diverse. Rather, we add to it.

So don't follow. Rather, join me. Join Brig. Gen. Crear. Let's all stand side by side on this.

Essays!



**US Army Corps
of Engineers**
St. Louis District®

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In This Issue

Lost in Sudan - Found in America	Cover Story
Commander's Perspective	Page 2
Mice with Optical Sensors	Page 4
Lock and Dam Model a Hit at the St.Louis Science Center	Page 5
Generally Speaking, Brig. Gen. Robert Crear Addresses Diversity	Page 6
Brig. Gen. Crear Keynote Speaker at Watershed Summit	Page 8
Progress Continues on Mel Price Gate Leafs	Page 10
Lakes Shelbyville and Wappapello Prepare for visitors	Page 13
Masters of the Skies Visit National Great Rivers Museum.....	Page 14
Retiree's Corner	Page 15
Change is in the Air	Page 15
Women's History Month	Back Cover

Lost and Found Cont. from page 1

crocodiles is being written in Kansas City, by our visitor, Joseph Taban Rufino.

Rufino, a diminutive young Black man who has been tabbed one of "The Lost Boys of Sudan," told his story of tragedy, trial and finally hope, to the U.S. Army Corps of Engineers in St. Louis during the final week of Black History month.

After telling more than 200 people who attended his presentation, "God Bless America," and this country is a "second heaven," Rufino began his hard-to-believe, although amply documented tale with emotion, occasional humor and profound impact.

"I remember the day they came," Joseph told of the arrival of government forces from the Islamic government in

Khartoum. He was playing with a friend at a neighbor's house. His friend's mother told him to come with her: "We must go this very minute," Rufino remembered of a distant event and place in the 1980s.

Joseph and his were members of an agrarian tribe in Africa's largest country. One fourth the size of the United States, The Sudan shares a 4,765 mile border with nine neighboring nations including Egypt on the North and Kenya on the south, as well as a 500 mile shoreline on the Red Sea.

Since gaining its independence from Great Britain in 1952, the nation and its people have been torn by civil war for all but the decade on the 1970s.

The primary rivals are Islamist forces from the more populace north and Christian-Animist believers in the south.

The Sudan has a population of 39 million. But during its half-century of "freedom," some 2 million people have been killed in fighting. Twice that number have been driven from their homes. It is a nation of the young. 44 percent of its people are 14 years old or younger. The median age is 17.9 years. Comparable figures for the U.S. are 7.3 percent and 35.9 years. It's tough in the Sudan, but it is also a nation in which those young people have had to grow up quickly – or die.

Joseph told his listeners how the adult males from his village were killed. The women and girls were largely taken captive or killed, although there are certainly "Lost Girls" from the Sudan as well.

Those who escaped had little or no idea of which way to run. Older boys assumed leadership roles, encouraging the younger ones, foraging for them and even defending them. When asked why they had done this, Joseph replied quite matter-of-factly, "Because they had to."

Walking across the tropical southern reaches of the Sudan, Joseph and more than 20,000 young men reached Ethiopia. Although there was little in the way of support initially, International organizations stepped in to meet the most basic needs as well as they could.



Joseph Rufino, gestures to emphasize a point as he contrasts his childhood experiences with his future in the United States.

The peace the refugees sought in Ethiopia was shattered in the early 1990s by warfare in that troubled nation and the boys were on the move again. This time they headed back across The Sudan, many retracing their steps past abandoned villages and little-remembered former lives with families, neighbors and friends.

Finally they arrived in relative peace and security – but only after many were eaten by hungry crocodiles as they tried to swim swift rivers – in Kakuna, Kenya. There they were sheltered and cared for by International organizations including the United Nations and the Red Cross.

Finally Joseph – among nearly 3,000 young male refugees – received sponsorship from an American church and was ready to go to America. "But someone assumed my name," he told. "When it was my turn, he was already gone and I had to start all over." Never taking the easy way out and giving up, Joseph eventually made his way to America and Kansas City, where today he lives, works and is attending school with the goal in his heart of becoming a pediatrician.

Joseph remembers his first day in Kansas City. It was bitterly cold. It was certainly much colder than he had even experienced in sub-Saharan Sudan.

"In the morning I went outside. There had been a shallow puddle the night before and when I stepped on its surface, it was ice. I fell down," he remembered, drawing a laugh from the audience.

Joseph Taban Rufino has suffered nightmares since his escape from combat nearly 20 years ago. In addition to



remembering the trials and tribulations he has suffered, he knew nothing of the fate of his family.

Then one day he told, "One of the men I live with was on a call with a friend of his in Kenya. The friend in Kenya asked if he had heard of Joseph Rufino. He replied the he lived with a Joseph Rufino."

"It was arranged that I would call Kenya, and I got a phone card. I was of course suspicious that someone would pose as my brother and then ask me for money," he continued.

"When I got on the phone with this person I asked him if he knew me, to describe me and to answer many questions," Joseph said.

"Gradually I became convinced that I was indeed talking to my brother and from our conversation we realized that we were both in Kakuma Refugee Camp together. Then I asked tentatively about our Mother. I feared the worst for her. I told him to go immediately back to Sudan and see if mother is alive," Joseph went on.

His brother told him that he had found their mother. Then Joseph asked "Did you bring Mother back with you," he asked. He was told by his brother, "No, I didn't have enough money." "So I sent more money and urged him to bring her where I could talk to her," Joseph reported.

"And now I have talked to her. I know



Vivian and Bill Arthur were instrumental in Joseph's visit to the St. Louis District. They are joined by their grandnephews Kevion (L) Jones and Tavion Jones.

after all these years that she was not killed. I will go to The Sudan and see them both," he said with a widening grin.

As he smiled out at his audience he received a thundering ovation for his bravery, his sincerity and for just sharing his life with us. He made everyone realize once again how blessed we are with opportunities. "America is the best nation on Earth," he repeated.

Joseph Taban Rufino has told his story many times across America. He has shared it in St. Louis and he has told it on

national television as a guest of the Oprah Winfrey show.

After speaking to the Corps of Engineers family in St. Louis, he had lunch with several of that group and then realized a long time dream when he went with them to the world famous St. Louis Westward Expansion Arch – truly both the Gateway to the West and to the best for Joseph Rufino. Going to the top of the Arch he was able to see another exciting panorama of his new adopted home – and he loved it.

Mice With Optical Sensors

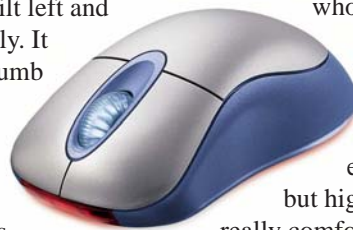
The plain old computer mouse is being challenged by stylish designs. The rolling ball is being replaced with optical sensors that eliminate the need for mouse pads. Cords are giving way to wireless connections, and extra controls are performing added functions.

Microsoft Optical Mouse by S+arck (\$15): Has a glowing blue or orange strip down its center. Because both sides of the mouse are the same, it works well for lefties as well as right-handed users.

Logitech MX1000 (\$80): Powered by a laser, it has 20 times the tracking

power of a typical optical mouse. In addition to the left and right buttons, the scroll wheel spins you up or down a document and can also tilt left and right to scroll horizontally. It has forward and back thumb buttons. When pressed, an application switch on the left of the mouse brings up a tiny list of your current applications.

Logitech MediaPlay Cordless Mouse (\$50): Uses replaceable batteries and a small plastic wand that plugs into a USB port. It has side-to-side scrolling and buttons for moving back and forth



among Web pages. It can launch your favorite media player application and control volume and playback. Those

who listen to music while working will be pleased.

Logitech V500 Cordless Notebook Mouse (\$70): Small

enough to put in a briefcase but high and wide enough to be really comfortable. It collapses into a thinner shape for travel and expands to normal size when you want to use it. It has a tiny cordless receiver that plugs into a USB port. The receiver tucks into it for traveling so you won't lose it.



Lock and Dam Model Captures Imaginations at St. Louis Science Center

More than 300 people stopped at a St. Louis District, U.S. Army Corps of Engineers-sponsored display at the annual Engineers Week at the St. Louis Science Center, Saturday and Sunday, February 26th and 27th.

The Corps has participated in this event that brings Engineers Week to a conclusion for several years. The purpose of the exhibit as well as other events throughout the week was to interest young people in science and engineering. Other Science Center exhibits included a solar powered car, a high-endurance model airplane, robots and even a concrete canoe.

The Corps exhibit this year focused on its navigation mission and specifically, on how locks and dams serve not only to make navigation more efficient, but at some times of the year, simply possible.

The model which was the centerpiece of this year's effort demonstrates how a series of pools on the Mississippi River forms a water stair step that enables vessels on the river to rise as they move northward and descend southbound. The working model with miniature tows and flowing water – thanks to a recirculation pump and plastic-tub reservoir –



Joe Stevenson, a new lock operator at Lock 24 at Clarksville, Mo., brings first hand experience to bear as he explains the operation of a lock and dam to visitors to the Engineer Week exhibit at the St. Louis Science Center.

attracted young and old alike.

For the young, an opportunity to play in water without getting scolded by parents was enough.

But older children quickly – and some adults almost as quickly – grasped the principles involved, seeing how gravity is used to cause water to flow into or out of lock chambers to equalize levels with the pools outside of the concrete and steel structures.

A backdrop display portrayed all of the Corps missions and started numerous discussions from flood damage protection to ecosystem restoration.

The Iowa Department of Transportation fact sheet that shows the load-carrying capacity of a standard 15-barge

tow and its equivalent in terms of rail cars and highway trucks was a source of amazement for many, young and old alike. A not atypical response to seeing this information was amazement over the capacity and the efficiency of river transport of commodities.

Numerous people also related their experiences and memories of earlier involvement with the Corps, particularly during the 1993 flood that held the region in its grasp that summer.

Other people were obviously fascinated with the history of the Mississippi, and other regional rivers and the Corps' century-and-a-half involvement. A frequent question was, what emerges during extremely low water events. Pictures of historic wreckage answered that question.

The exhibit was also heavily visited by other exhibitors, hopefully planting especially in the minds of the bright young college students, that the Corps may be their future employer of choice.

This year's event was organized by Jacque Mattingly, who moved temporarily from FUSRAP in December, January and February, both to gain experience in public affairs and to help during the absence to Iraq of Nicole Dalrymple. Jacque was ably assisted in this popular event by: Moe Dirnburger, Ruth Townley, Steele Beller, Joe Stevens, Toni Serena, Megan Maxwell, Alan Dooley and Keisha Hurst.



The U.S. Army Corps of Engineers, St. Louis District display during the final weekend of Engineer Week at the St. Louis Science Center attract much attention with an operating model of a lock chamber and photos and information about the many missions performed by the Corps.



Generally Speaking

*by Brig. Gen. Robert Crear Commander
Mississippi Valley Division*

My topic of discussion for this issue is diversity and what it means to me and to our organization.

To my mind, diversity is not merely the absence of discrimination; more fundamentally, it is the powerful presence of a sense of teamwork and community one that brings all kinds of people from different backgrounds together, with the end result of creating a whole that is much greater than the sum of the individual parts.

With the Mississippi Valley Division as my audience, I don't have to point out the importance of another kind of diversity, which is, balancing the challenging and diverse requirements of economic, environmental and social needs throughout the entire watershed.

The Mississippi Valley is extraordinary in terms of its diversity. It has everything from swamplands and hardwood forests to floodwalls and dams. You in the MVD are true stewards and champions of the water resources in this amazingly diverse valley.

So my message to you is really very simple. It is to bring the same kind of thinking and the same kind of dedication to diversity, in the purely human and organizational context, that you already do to diversity in the water resources context.

I believe that at MVD we value diversity. We should not assume that diversity is something that comes with the territory in being a federal agency. To the contrary, we are spending a great deal of time, money and effort to become more diverse at all levels of our organization.

So, how do you encourage diversity? Above all, how do you encourage it in an organizational setting, such as the MVD? Perhaps we should examine the key word a little more closely.

According to the dictionary, "diversity" simply means difference, unlikeness or variety. Like the proverbial snowflake, each of us is different - in some way, unique. However, like the snowflake, we are also incredibly alike. For all of the differences between people, far less than



Mississippi Valley Division Commander Brig. Gen. Robert Crear speaks frankly concerning the importance of diversity in the workplace.

one percent of our DNA separates any one human being from any other.

Diversity has also been described as inclusion - inclusion of all groups at all levels in the organization. Diversity also requires a special corporate culture - a corporate culture in which every employee is able to pursue his or her career aspirations without being inhibited by gender, race, nationality, religion or other factors, factors, which are irrelevant to performance. Diversity means maximizing the potential of our workforce by creating an environment of respect, acceptance, understanding and communication. A

place where new ideas and new perspectives are encouraged along with a commitment to serve diverse communities.

The true test of diversity within an organization - or across a whole society - is whether people build upon their differences or whether they are divided or even destroyed by them. Part of the greatness of our country is contained in the motto that is stamped on our coins "E Pluribus Unum," or "Out of Many One."

Skin color, gender, age and national origin are some of the obvious and important differences between people. But



there are many other differences in background, history and habit that are also very important - and that must be addressed in any organization seeking to reap the benefits of diversity.

This brings me to a favorite book - and I recommend it to all of you. It's called *Building a House for Diversity*. The author is R. Roosevelt Thomas, Jr.

Thomas' book begins with a wonderful fable about a giraffe who wants to befriend an elephant and who therefore invites the elephant into his house. After some quick carpentry to enlarge the basement door in order to admit the elephant, the giraffe goes off to answer a phone call, telling the elephant, "Please make yourself at home." But every time the elephant moves, there is a large scrunch or crashing sound. When the giraffe returns, he is amazed at the damage that the elephant has done and is quick to offer advice. Sign up for Weight Watchers, he urges the elephant. And it wouldn't hurt, he adds helpfully, "if you'd go to ballet class at night", in order to become "lighter on your feet." There are three clear morals to be drawn from this story and the interaction between the giraffe, as the insider, and the elephant, as the outsider. The first is the silliness of expecting an elephant to assume the same dimensions as a giraffe.

If you are serious about diversity, you should build your house with that in mind. But that is not an easy task. As a second moral to the story, you should expect a certain amount of tension and complexity. And finally, each of us must be prepared to move outside our original comfort zone if we want to embrace and promote diversity. That's the third and biggest moral from the story. There is no such thing as a diverse organization created by executive dictate. It is something that will come into being only through the willing and active behavior of supervisors, managers and people at all levels.

I'm sure that most of you have already learned those same lessons in managing the great water resources of this valley. It wouldn't occur to you to think that every stream was the same or that every tree was the same. You accept the need for positive

actions dictated by unusual soil conditions or other localized differences. Say there has been substantial erosion of topsoil in a place of rich farmland. That could be an action that would elicit some kind of counter-action on your part. And I trust that we can all agree that the maintenance of a clean environment requires the concerted efforts of all concerned citizens.

When I - as an African--American, male, general officer - write on the topic of diversity, I know that there is always going to be an unspoken question on the minds of many readers. They will wonder: What does he really think? If I could read his inner thoughts, what would they be? I will try to answer that question with particular reference to race.

Frankly, I'm worried. What makes me apprehensive is the growing gap in the perceptions of white Americans on one side and black Americans on the other. It is as though the giraffe and the elephant have each been blinded to what the other sees as reality. White Americans, for the most part, believe that race is no longer much of an issue in our society. They see the night time television dramas in which individuals from all races get along as buddies and excel equally. That's how it is in real life, right?

Wrong. While I cannot pretend to speak for black Americans as a whole, I can tell you that a recent Gallup poll indicated that 50% of black Americans believe they have been discriminated against within the past 30 days — when shopping, dining out, working, using public transportation or interacting with the police. What's more, I can cite studies showing that, with similar educational backgrounds, black males earn less than 75 percent of what their white peers take home.

Our journey toward greater harmony and justice is not yet over. If you look around MVD, you'll see that we're not as diverse as the population outside our offices. Representation of African Americans in positions of management doesn't come close to representing the population in our communities.

MVD is comprised of approximately 5,171 employees. Of this total, only 18 percent are minorities. Our minority

employees include 521 black males and 262 black females; 50 Hispanic males and 29 Hispanic females; 29 Asian American/Pacific Islander males and 14 Asian American/Pacific Islander females; 24 American Indian/Alaskan Native males and 14 American Indian/Alaskan Native females.

These figures indicate a grave need for us to strive to be more diverse. Becoming more diverse does not mean that we sacrifice quality in selecting individuals for positions. It means that we should put forth more effort to reach our qualified minorities.

We can no longer use the excuse that there aren't any minorities in the labor force. For example, if we look at civil engineers just in Mississippi, there are 30 Hispanic males and 4 Hispanic females; 130 black males and 30 black females; and 15 Asian males and 15 Asian females. Yet, we are not bringing these people to the table for local jobs. When we look at our national labor pool for minorities in our occupational series, they are out there. We just need to cast a net as extensively as possible to attract them. That means better recruiting, not decreasing quality or qualifications.

What a challenge. We can make the region more diverse with more effort. We should visit our minority serving institutions, encourage students to apply for our vacancies, bring back resumes and act upon them rather than adding them to some database that we never use.

Having already given you the dictionary version, I would like to close with my own definition of diversity. To my mind, diversity is not merely the absence of discrimination; more fundamentally, it is the powerful presence of a sense of teamwork and community — one that brings all kinds of people from different backgrounds together — with the end result of creating a whole that is much greater than the sum of the individual parts.

My challenge to you is be equally bold and energetic in bringing that kind of teamwork and community into play... in making the Mississippi Valley Division a true house for diversity.



More than 130 members of the Kaskaskia Watershed Association packed a meeting room at Carlyle Lake for the association's annual summit, keyed by Mississippi Valley Division Commander Brig. Gen. Robert Crear.

Brig. Gen. Robert Crear Keynotes Watershed Summit at Carlyle, Ill., Visits Valley Park Levee

Story and photos by Alan Dooley

Carlyle, Ill. – Mississippi Valley Division Commander and Mississippi River Commission President Brig. Gen. Robert Crear delivered the keynote address to the annual summit of the Kaskaskia Watershed Association at Carlyle, Monday, Feb. 28, 2005. More than 130 people representing interests throughout the watershed region, attended the day-long session.

In his remarks, the general noted the example of watershed organization and how effective the KWA has become, noting that it is praised and held out as an example in the U.S. Army Corps of Engineers Five Year Strategic Plan. He told how literally within days of assuming command of the St. Louis District, Col. Kevin Williams as one of his first official duties, spent an evening on the Kaskaskia River with the Association – and hadn't stopped raving about the group during the next two and one-half years. He described the KWA as an organization representing numerous interests with a single voice – and one that is heard and to

which attention is paid.

Brig. Gen. Crear took advantage of the opportunity to tell his audience about future trends and developments throughout the Corps and the Mississippi Valley, noting that we cannot continue to do business the same way if we are to best serve our customers.

He said that we have had a relatively flat civil works budget for several years – before effects of inflation – which means we have really had diminishing resources. "The Corps is focusing its efforts on those projects that will have the greatest impacts and provide the highest returns on the nation's investment," he said.

Taking the audience step-by-step through his message, he described his efforts as being driven by a desire to use virtual teams to bring the very best people and technology to bear on projects, regardless of where they actually work.

The general also reminded everyone of the involvement and importance of the U.S. Army Corps of Engineers in the Global War on Terrorism, noting that a force of uniformed military people and civilian volunteers had or was serving in Iraq and Afghanistan, with still more Corps employees are serving in more than 90 nations worldwide.

He concluded his remarks with a moving multimedia presentation showing some of the many Corps employees at



Brig. Gen. Robert Crear outlines his vision for Corps' involvement in the future of the Kaskaskia watershed in Illinois.

work in Iraq and Afghanistan, drawing a standing, thundering ovation from the appreciative audience when the presentation ended.

During the visit, Brig. Gen. Crear also took a helicopter tour to see for himself, damage from January's unseasonable rainfall that brought Lake Shelbyville and Carlyle Lake to near-record elevations within a matter of days.

Following the general's presentation, the Kaskaskia Watershed Association recognized Col. Kevin Williams for his strong support of the organization during his tour as District Engineer by presenting him with a photo collage of scenes and



people throughout the watershed.

On Tuesday, March 1, Brig. Gen. Crear journeyed south of St. Louis to Valley Park, Mo., where he was briefed by city officials and the contractor completing the levee project there.

During the briefing in the City Hall, the general learned about construction details and the schedule that is leading to completion this summer. He also heard city officials thank the District and Division for standing with them to complete the project. One attendee reduced the need to protect the city to a personal level when he told how he and his father, after battling flood waters for days and losing, cried as they floated through their furniture store in a boat.

Following the briefing, the general and key District and city officials took a driving tour of the project. After returning to the city hall, Brig. Gen. Crear told the assembled city fathers, "I'm looking forward to coming back to cut the ribbon with you this summer."



Brig. Gen. Robert Crear (L) and Valley Park Levee project manager James Zerega briefed the city's officials and interested citizens about the levee slated to be completed there this summer, that will protect the city from Meramec River floods.

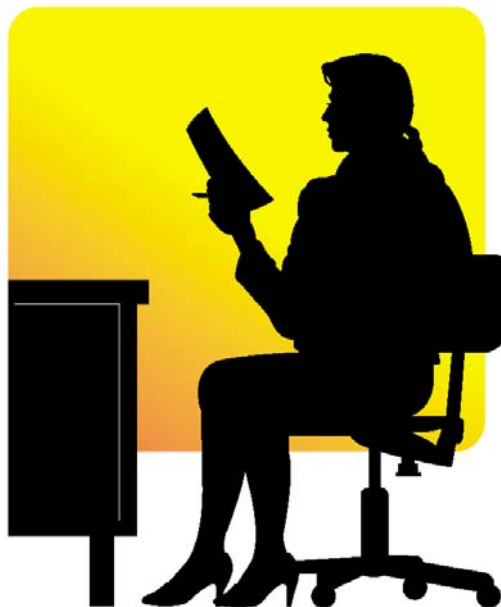
To Save Your Back, Practice The Art Of Sitting

Soldiers returning from World War II used the saying "Oh, my back!" to indicate that what someone was saying was distressful or aggravating. When you think about it, connecting something that's aggravating with back pain was a logical choice. Few things are more distressing than an aching back.

Back pain will affect 80- to 90 percent of us at sometime in our lives. It's second only to headache as the most frequent cause of pain.

Some of the main causes are poor posture, repeated lifting and bending, reaching and twisting, and poor physical condition. Poor posture includes how and how long you sit at your desk or workstation. Too little movement for long periods of time puts great stress on the back.

This is especially true for people with



sedentary lifestyles. They lose strength in the trunk muscles that help support their backs and maintain proper alignment. For these people, a regular program of stretching, abdominal crunches, partial squats, and pelvic tilts would be helpful.

If you never thought of sitting as an art, think of it that way now. Doing it right could save you from the tired achy feeling that some people get from sitting too long.

First, stand up and walk around a couple of times an hour. The National Safety Council says you should do this when you sit:

- Support your lower back with a lumbar support.
- Sit deep into the chair with both feet flat on the floor.
- Be sure that the height of your work area is level with your elbows when they are hanging by your sides.
- The top of your computer screen should be at or slightly below eye level.
- If you use a telephone frequently, use a head set.

Most back injuries are not caused by a single event. They are the result of a buildup of factors that add up over time.

They gradually wear down the back's supportive structures, leaving you at risk for back pain or a back injury.



The Missouri and Illinois leaves of the Mel Price auxiliary lock lay in the foreground on a barge at the St. Louis District Service Base where they are being repaired. MV Mary Ann operated by American Commercail Barge Lines, pushes a 16-barge tow north up the Mississippi River behind the damaged gates.

Work Moves Ahead on Mel Price Gate Leafs

Work has continued on the damaged miter gate leaves from the Mel Price Locks and Dam Auxiliary Chamber.

The gate was damaged on Sunday morning, October 3, 2004. The leaves were severely distorted when they were forced past the mitered (or correctly closed position). The damaged leaves – each, at approximately 220 tons, the size of the Statue of Liberty – were first lifted from the lock by the large crane Hercules from Rock Island and secured on a barge in a vertical position.

In early January, one of the largest mobile cranes on the inland waterway system (the Henry M. Shreve with a lifting capacity in certain positions of over 500 tons) was dispatched from the Ohio River Division Fleet located in Louisville to lower the gates to a horizontal position. This was necessary so they would fit under the bridges on their way to the St. Louis District Service Base, and to make access for repairs easier.

There they have been undergoing

intensive analyses and have been subject to detailed discussions and planning for their repair.

Traditional methods of straightening leafs warped and bent as these two are have involved cutting out sections of bent steel and replacing them with new steel.

After intensive and lengthy consideration, St. Louis District engineers in consultation with nationwide experts in the repair of steel structures, decided to pursue a process that uses repeated precise applications of heat to specific locations to drive the gates shape back to a flat configuration.

Flame-On, Inc., a nationwide service company based in Snohomish, Wash., was selected to perform the work. Flame-On first succeeded in restoring the Missouri Gate to a flattened posture (this leaf was distorted 16 inches from one end to the other). The technicians have also completed work on the more badly damaged Illinois gate last week and both leafs are now restored to a flat



Civil Engineer Matt Thurman, shows the amount of bending —26 inches— in the Illinois leaf of the Mel Price auxiliary lock.

condition and are now undergoing other repairs to localized areas to prepare them for reinstallation at the Mel Price Locks and Dam.

The process used by Flame-On, known as heat or flame straightening, has been used extensively in recent years to restore localized damage on structural



members such as bridge girders, but this marks the first such general application on a large steel gate leaf to remove generalized distortion (one end of the Illinois leaf was bent some 26" relative to the other end)

A final check of results of the flame straightening required that engineers determine the exact center of gravity of the leafs and then project a pair of perpendicular lines through this point to the edges. According to structural engineer Rob Kelsey, with one side of each leaf resting on blocks, a powerful jack was used to lift the other side to measure how much the leafs bent under this load. The bending of the straightened leafs was found to be within tolerances.

The project, still working toward a schedule to restore the Auxiliary Chamber to operation by June, is currently projected to cost about \$12.6 million.

The work is being conducted under a metal-framed canvas weather covering to enable it to go forward during possible bad weather. Rain could hinder the heat-straightening work because it would collect in the numerous structural chambers of the lock gate. The water would act as a heat sink making it very difficult to allow the members being heat straightened to reach an optimal temperature required to remove the distortions. The cover also provides protection for wind.

The canvas-covered structure has been purchased by the Corps, and since it can be transported by flat bed trailer, it will be available to meet other requirements throughout the Mississippi River Valley.

While there has been a very substantial focus on repairing the damage and restoring the lock chamber to operation, a parallel effort has focused on determining exactly what happened last October 3 and of even greater importance, how best to prevent it from occurring in the future.

Very soon after the event, District Commander Col. Kevin Williams called for an outside investigation to be conducted. He asked for and got a team



Roger Weaver (L) and Coy Jackson smooth torch-cut metal on the Illinois leaf of the Mel Price Auxiliary Lock gate, being repaired at the St. Louis District Service Base.

that could bring both great expertise and complete independence to bear on the subject.

The team led by Vicksburg Deputy District Engineer Lt. Col. James E. Langan, identified a most probable sequence of events that led to the failure of the lock gate and its damage.

First they found that the Missouri leaf, farthest from the Illinois bank of the river, apparently suffered a failure in the strut arm which opens and closes it. This allowed it to stop before it could come to the proper position to miter with the Illinois leaf.

The normal miter position – pointed 19 degrees upstream – enables the gate to absorb the horizontal force, in this case, some 44 tons for each foot of difference

between water difference between pool above the lock and tail water below. This force is transferred into the lock walls through what are known as quoin blocks.

With the Missouri leaf short of proper closure, the Illinois leaf, lacking an adjacent gate to miter against, passed its proper closed position and came to rest on the sill at the bottom near the chamber.

Many of the safeguards to prevent damage to both structural and mechanical features at the Melvin Price Project are built into a computer system which performs numerous checks on various components prior to allowing certain steps in a lockage sequence to proceed. The logic the computer system uses to



Heat, or flame straightening involves repeatedly applying heat from an oxy-acetylene torch to the bent metal.



The pattern of repeated heat application shows clearly after the structural member had been straightened.



verify that the gate was mitered was altered sometime in the past.

The system's redundancy (which provides two checks to insure the gates are mitered) had been changed to only check if either of two conditions were present (and not both). Switches known as the closed gear rack proximity switches, incorrectly indicated that the gate was closed and mitered.

The system is designed to allow filling of the chamber only after sensing that the leafs are correctly mitered. The altered system failed to correctly assess the situation and allowed the culvert valves which allow water to enter the lock to open and let water from the upstream pool into the 110-foot by 600-foot chamber. The valves have an area considerably larger than the estimated approximately two-foot gap in the gates. The water level rapidly built up inside the chamber, causing the gate leafs to move, clashing with each other as they passed through their closed position of strength before coming to rest pointing downstream.

The investigators made several recommendations to the St. Louis District and the Mississippi Valley Division, including revising operating procedures to call for more visual



An environmental shelter to cover the gates under repair has been installed on the barge where they are resting. The metal framed canvas structure can be moved on tracks to cover the work area, enabling repairs to continue in inclement weather.

checks. They also called for adding additional electromechanical sensors to the system and instituting a protocol to enhance processes documenting maintenance or changes.

In addition to these points, stops are being installed on the gate sills to help prevent the leafs from going past the mitered position. Many of the "fixes"

identified will be applied to miter gates on the project (north end of the auxiliary lock and the south end of the Main 1200-foot chamber.)

Some of the findings and recommendations may also be applicable to other Mississippi Valley lock gates as well as in Corps Districts in other Divisions. According to District Construction-Operations Chief Peggy O'Bryan who detailed the past year's incidents and Locks 27 and Mel Price at the Inland Waterways Conference in Nashville, Ky. recently, "The Corps is a learning organization. The pain of this lesson makes it necessary that we do our best to apply what we learn as broadly as possible."

While the 600-foot auxiliary chamber has been out of service, its larger counterpart has been bearing the entire load both for the large 15-barge tows that operate on the locked section of the Mississippi River from Minneapolis-St. Paul to Locks 27 at Granite City, Ill., and for smaller tows and recreational craft.

According to Lock Master Tom Miller, "We have been guarding that chamber very carefully, as it is being subject to greater than normal use and is



Flame-On technicians are seen here applying heat with torches to the entire length of a warped structural element of the Missouri leaf of the Mel Price locks auxiliary gate.



the only alternative for locking up and down the commercially critical Mississippi and Illinois Rivers.” A Corps-contracted helper boat is aiding all tows entering the main chamber from the north to ensure that they do so safely.

While repairs go forward, in the best traditions of the U.S. Army Corps of Engineers, the organization is both looking back to understand what has occurred and forward to incorporate lessons learned. Investigation findings may help prevent future repeats of this kind of incident and applying heat straightening to the damaged gates may prove to be a more economical alternative to other past “cut and weld” methods.

With the leafs now flat, a revised cross brace (diagonal) system with a “pinned” connection at the bottom of the gates will be installed and new tensioning rods and nuts will be installed on the top. This will allow future tensioning of each leaf to be done only from the top, eliminating the need for the expensive dewatering operation to tension the bolts at the bottom of the leafs. Other work will be done to restore them to original or better condition.

The gate leafs will then be floated upstream back to Mel Price Locks and Dam where final “extra-District” support by one of the Corps giant floating cranes will be necessary to stand the gates upright and reinstall them in the lock chamber. For big crane fans, this hopefully will be the last opportunity to see one in operation for awhile – at least on an unscheduled basis.

Note: Recently in Esprit we tried to explain the proper use of the terms “leaf” and “leafs” versus leaves, when referring to locks. We have been further informed by Tom Ruf that the terms “gate” and “leaf” are not interchangeable. Each of the large door-like elements that move is a “leaf.” Together they constitute a “gate.” That’s our explanation. Hopefully we will be able to stick to it for the foreseeable future..



Prairie fires occur in nature. The lake personnel carefully consider weather conditions to prevent the fires from spreading to unwanted areas.

Controlled Burning at Lake Shelbyville:

The Lake Shelbyville Natural Resources Department along with several other members of the Lake Shelbyville staff performed prescribed burns on four prairie plots at the project recently. Weather and fuel conditions were favorable to achieve our desired objectives.



Aerial seeding provides a unique method of erosion control and increased wildlife habitat that would be virtually impossible by other means.

Seeding of Mud Flats:

Wappapello Lake personnel, in cooperation with Wappapello Bass Masters and Dudley Flying Service, seeded exposed mud flats with wheat. On 8 March 2005, they aeriaily seeded 18,000 pounds of wheat on approximately 180 acres.

This effort is to increase fish and wildlife habitat as well as reduce erosion problems during winter pool. When the lake is drawn down for winter pool, several flats are exposed and are without protection from vegetation. This wheat planting should help supply the needed root system to hold the soil.

The Bass Club personnel showed more excitement than the greatest fishing tournament they ever experienced.



Classroom Skies Mastered at National Great Rivers Museum

More than 350 visitors to the National Great Rivers Museum were able to view birds ranging from a diminutive eastern screech owl to a giant black vulture that ranges from the U.S. to Africa, with stops in between to become familiar with a Bald Eagle and other true “masters of the skies,” Saturday, February 13.

The birds and fascinating information about each were presented by an education outreach team from the Valley Park, Mo. World Bird Sanctuary (WBS).

The WBS adds public education and wide ranging field studies to its work. In addition, the WBS has trained falcons to deter birds from endangering aircraft at Air Bases. That latter program – dubbed BASH, or Bird Air Strike Hazard – saves lives, humans and birds, while saving dollars from damage by birds striking aircraft.

The program at the museum included numerous “low altitude” passes over groups of up to 100 people crowded into the museum’s classroom. Visitors were cautioned not to stand up: “The birds tend to fly to whoever is standing,” they were warned.

First up was a Harris’s Hawk from the American southwest. The audience learned that these dark grey hawks with red wing markings, perch on cactuses to survey their territory. Often they rest on top of each other, “stacking” as high as four birds to survey all quadrants for prospective meals. Masters of energy conservation, they fly extremely close to the ground – or in this case hats and hair – on their flights.

A Black Vulture, found from the American Southeast to Africa, next rode around the room on a keeper’s arm. An educator told why their heads are bald (so they can stick them into dead animal carcasses without getting their feathers soiled) and how in Africa they may eat so much that they are unable to fly. If a passing hyena mistakes them for an easy meal, when he gets too close, the bloated



This Red Shouldered Hawk ignores handler Lisa Francis. Its steady gaze is directed at all the curious visitors gathered to see it in the National Great Rivers Museum classroom..

bird will regurgitate his meal and incredibly corrosive stomach acids on the animal. This sends the hyena howling in search for water and lightens the vulture enough to fly!

A peregrine Falcon – the world’s fastest bird, which can knock prey from the sky with the impact of its closed claws and a Great Horned Owl then toured and flew the room to the visitors’ delight. The educator told that the horned owl’s distinctive head feathers are neither horns nor ears, but do demonstrate to bird’s moods.

A diminutive Eastern Screech Owl toured the room on a keeper’s glove. Not much larger than a Robin, it’s eyes attracted great attention.

Finally a Barn Owl made repeated passes close over the audience. Its wings were absolutely silent and it didn’t even rustle the air only inches above heads, showing why this bird is the bane of small rodents and vermin. The educator told how the dish-shaped feathers around the Barn Owl’s eyes serve to focus sound to enable it to hear small animals at great distances and in the dark.

Liberty, a Bald Eagle that is permanently flightless after two run-ins with cars while dining on road kill, rounded out the presentations as he sat on his keeper’s arm, posing for photos with

visitors. This was good practice for Liberty, who spends his summers in Williamsburg, VA with much larger crowds.



Liberty and our flag created a special patriotic photo opportunity.

The “Masters of the Skies” program is just one of the multitude of educational and entertaining events offered by the National Great Rivers Museum. Check out the schedule at: <http://www.mvs.usace.army.mil/Rivers/ngrm.htm> for information on other programs, the museum and locks and dam tours.



Retiree's Corner

At the February monthly luncheon, Wally Feld mentioned that one of our "nanogenerians," Bob Maxwell, passed away since the last luncheon. Bob will be missed by us all - his family, many retirees and golfers. He always had a story or a joke.

Many of his stories were about his early working days. Since there weren't many old enough to remember, his stories always brought smiles or chuckle from fellow retirees. Wally also mentioned that the retirees have several other members in that category, namely: Ruddle Spring (Captain of the MV Pathfinder), Harold Rodgers (Lockmaster old L & D No.26), Dan Courtney (Radio Section-Service Base), Steve Williams (Chief of Information Management), Eli Hydar (Budget Branch). Elsie Kalafatich mentioned Violet McCarty [Schawacher]. There may be others, but, those came to mind. Congratulations to all of them for enduring successfully the rigors of retirement. What ever it is, keep on doing it.

Wally also mentioned that the golf league has shuffled teams this year. League play will start on April 12th. The Spring tournament is April 8th. He also mentioned that the current District Engineer, Colonel Williams, is due to leave the District this summer. He was told that his replacement is a golfer, so there will be another league player.

Lew Scheuermann said that he no longer needs a cane, The doctor has virtually released him for "duty", whatever that means. He was starting bowling to test his knee. It that works, he will start practicing for golf. He said that he received a call from Estell Huizenge, from Kansas City, checking on his health. She read in the ESPRIT, that he had knee replacement



and took the opportunity to call and "visit". Estell is doing fine, living with her daughter, in Kansas City. She still has not sold their Jackson, Mo. "estate," but then, what's the hurry.

Don Wampler thanked those retirees that made the wake for Bob Maxwell. He said that Bob's family was very appreciative of the many who attended. Don also livened up the group with several stories and jokes.

There was also a discussion of NARFE as being the organization that fights for the federal retirees benefits. All retirees should consider joining the organization.

Many of the regulars were no shows, but this gave those in attendance a chance to talk about them.

FLASHBACK 1970

- The new DE, Col. Carroll LeTellier, arrived from the 24th Engineer Corps in Vietnam. He's a graduate of the Citadel, with a Masters degree from M.I.T. He replaced Col. Decker who was assigned to the Fifth Army at Fort Sheridan, Illinois.
- Deputy Commander LTC Alch, was reassigned to Korea.
- The last major contract in the \$77,600,000 City of St. Louis Flood Protection Project was awarded to Frazier-Davis Construction Company. To build floodwall, pumping station and sewer alterations in the section of wall near Chippewa Street. Completion was scheduled for June 1972.
- Bruce Moore was promoted to Chief, Foundation & Materials Branch, and James T. Lovelace to Chief, Hydraulics Branch.
- Dave Spencer was awarded a Masters degree in Civil Engineering from Rolla. Gordon Cordes was certified as a registered Geologist.
- New Professional Engineers were; Ed Burgoff, Jim Greenley, Fred Powell and Ray Childs.
- New JETS were; Gary Jones and Mike Mertens.



The District bids Farewell to:

John Dierker ED
 Claude Strauser ED-H
 James Hinton CON-PD
 Darrell Laplante CON-PD
 James Singleton CON-PD
 Stantley Ebersohl CON
 Larry Gulzler CO-S
 Wayne Clinger CON-N7
 Alvin Lookofsky CO-S
 Edmond Rogers CON-N7
 Jerry Stroud CON-N5
 Michale Abernathy CON-NP

And Welcomes:



Willem Loupatty, the newest member of the St. Louis District family.

Willem is not new to either the Corps or the Army.

Before coming to St. Louis, Willem worked in the Baltimore, Md., District. He is also a veteran, having retired from 22 years of active service in the Army as a CWO2 before coming to the Corps. In the Army he worked on seagoing vessels, rising to serve as master of several.

A native of Indonesia, Willem will serve here as master of MV Grand Tower. Willem and his wife reside in Fairview Heights, Ill.

March is National Women's History Month

In 2005, the Women's History Month theme, "Women Change America," honors and recognizes the role of American women in transforming our culture.

In a recent proclamation on women's History Month, President George W. Bush said in part:

"During Women's History Month, we celebrate the many accomplishments of our Nation's women.

"Women are leaders in American business, government, law, science, medicine, the arts, education, and many other fields. As mothers, sisters, and daughters, they bring compassion and integrity to our communities and help to teach our children the values that make our country great," the president said.

"Women today are following in the footsteps of pioneers who helped open the doors to higher education for women in our country. Their vision and determination changed America forever.

"Today, more than 200,000 women are serving in our Nation's Armed Forces and working to defend America and advance peace and freedom. We are grateful for their sacrifice and for the military families that support them.

"Women Change America' also celebrates the myriad ways in which the spirit, courage, and contributions of American women have added to the vitality and diversity of American life," President Bush concluded.



This WWII poster encouraged women to leave their homes and join the workforce in support of the war effort.

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